H0509 - TMO/RECRA

RECRA ENVIRONMENTAL INC.

0052699

Chemical and Environmental Measurement Information

Recra LabNet Philadelphia
Analytical Report
****REVISION****

Client : TNU-HANFORD B99-085
RFW# : 9908L931
SDG/SAF #: H0509/B99-085

W.O. #: 10985-001-001-9999-00
Date Received: 08-31-99

RECEIVED
MAR 20 2000
EDMC

SEMIVOLATILE

This narrative was corrected to add the TIC search for Tributylphosphate.

One (1) water sample was collected on 08-27-99.

The sample and its associated QC samples were extracted on 09-01-99 and analyzed according to criteria set forth in Recra OPs based on SW 846 Method 8270B for TCL Semivolatile target compounds on 09-08-99.

The following is a summary of the QC results accompanying the sample results and a description of any problems encountered during their analyses:

1. The cooler temperature upon receipt has been recorded on the chain-of-custody.
2. The required holding times for extraction and analysis were met.
3. Non-target compounds were detected in the sample.
4. The sample was spectrally searched for Butylated Hydroxytoluene and Tributylphosphate; however, they were not identified in the sample.
5. Six (6) of thirty (30) surrogate recoveries were outside EPA QC limits. EPA CLP surrogate recovery criteria were not met for the method blank 99LE1068-MB1. The sample data was not affected. A copy of the Sample Discrepancy Report (SDR) has been enclosed.
6. All matrix spike recoveries were within EPA QC limits.
7. Two (2) of eleven (11) blank spike recoveries were outside EPA QC limits.
8. The method blank contained the common laboratory contaminants Bis(2-Ethylhexyl)phthalate and Di-n-Octylphthalate at levels less than the CRQL.

J. Michael Taylor
Vice President
Philadelphia Analytical Laboratory

01-27-00
Date

som\group\data\bna\tnu08931.doc

01

GLOSSARY OF BNA DATA

DATA QUALIFIERS

U = Compound was analyzed for but not detected. The associated numerical value is the estimated sample quantitation limit which is included and corrected for dilution and percent moisture.

J = Indicates an estimated value. This flag is used under the following circumstances: 1) when estimating a concentration for tentatively identified compounds (TICs) where a 1:1 response is assumed; or 2) when the mass spectral data indicate the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero. For example, if the limit of detection is 10 ug/L and a concentration of 3 ug/L is calculated, it is reported as 3J.

B = This flag is used when the analyte is found in the associated blank as well as in the sample. It indicates possible/probable blank contamination. This flag is also used for a TIC as well as for a positively identified TCL compound.

E = Indicates that the compound was detected beyond the calibration range and was subsequently analyzed at a dilution.

D = Identifies all compounds identified in an analysis at a secondary dilution factor.

I = Interference.

NQ = Result qualitatively confirmed but not able to quantify.

A = Indicates that a TIC is a suspected aldol-condensation product.

N = Indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds (TICs), where the identification is based on a mass spectral library search. It is applied to all TIC results. For generic characterization of a TIC, such as chlorinated hydrocarbon, the N code is not used.

X = This flag is used for a TIC compound which is quantified relative to a response factor generated from a daily calibration standard (rather than quantified relative to the closest internal standard).

Y = Additional qualifiers used as required are explained in the case narrative.

GLOSSARY OF BNA DATA

ABBREVIATIONS

BS	=	Indicates blank spike in which reagent grade water is spiked with the CLP matrix spike solutions and carried through all the steps in the method. Spike recoveries are reported.
BSD	=	Indicates blank spike duplicate.
MS	=	Indicates matrix spike.
MSD	=	Indicates matrix spike duplicate.
DL	=	Suffix added to sample number to indicate that results are from a diluted analysis.
NA	=	Not Applicable.
DF	=	Dilution Factor.
NR	=	Not Required.
SP, Z	=	Indicates Spiked Compound.

Recra LabNet Philadelphia **Sample Discrepancy Report (SDR)** SDR #: 99MS 074

Initiator: S Durhe
Date: 9-20-99
Client: INU Hanford H0509

RFW Batch: 9908L931
Samples: QC
Method: SW846/MCAWW/CLP/

Parameter: BNA
Matrix: Water
Prep Batch: 99LE1068 Cont

1. Reason for SDR

a. COC Discrepancy __ Tech Profile Error __ Client Request __ Sampler Error on C-O-C __ Transcription Error __ Wrong Test Code __ Other _____

b. General Discrepancy

__ Missing Sample/Extract __ Container Broken __ Wrong Sample Pulled __ Label ID's Illegible
__ Hold Time Exceeded __ Insufficient Sample __ Preservation Wrong __ Received Past Hold
__ Improper Bottle Type __ Not Amenable to Analysis

Note: Verified by [Log-In] or [Prep Group] (circle)...signature/date: _____

c. QC Problem (Include all relevant specific results; attach data if necessary)

5 out of 6 surrogates out / 0% in the Blank
1 surrogate & 2 spikes low in the Blank Spike
Low Recoveries Limited to the Blank + Blank Spike

2. Known or Probable Causes(s) prep

3. Discussion and Proposed Action Other Description: Sample data OK

__ Re-log
__ Entire Batch
__ Following Samples: _____
__ Re-leach
__ Re-extract
__ Re-digest
__ Revise EDD
__ Change Test Code to _____
__ Place On/Take Off Hold (circle)

Narrate

4. Project Manager Instructions...signature/date: Juliette Johnson 9/24/99

✓ Concur with Proposed Action
__ Disagree with Proposed Action; See Instruction
✓ Include in Case Narrative
✓ Client Contacted:
Date/Person Kevin Johnson 9/27/99
__ Add
__ Cancel

5. Final Action...signature/date: KMD 9/30/99 Other Explanation:

__ Verified re-[log][leach][extract][digest][analysis] (circle)
X Included in Case Narrative
__ Hard Copy COC Revised
__ Electronic COC Revised
__ EDD Corrections Completed

When Final Action has been recorded, forward original to QA Specialist for distribution and filing.

Route	Distribution of Completed SDR	Route	Distribution of Completed SDR
__	X Initiator	__	__ Metals: Doughty
__	X Lab Manager: M. Taylor	__	__ Inorganic: Perrone
__	X Project Mgr: Stone/Carey/Schrenkel/Johnson	__	__ GC/LC: Schnell
__	X Section Mgr: Wesson/Daniels	__	__ MS: LeMin/Taylor
__	X QA (file): Racioppi	__	__ Log-in: Toder
__	__ Data Management: Feldman	__	__ Admin: Soos
__	__ Sample Prep: Schnell/Doughty/Kauffman	__	__ Other: _____

	Cust ID:	B0W8W0	B0W8W0	B0W8W0	SBLKCD	SBLKCD BS
Sample Information	RFW#:	001	001 MS	001 MSD	99LE1068-MB1	99LE1068-MB1
	Matrix:	WATER	WATER	WATER	WATER	WATER
	D.F.:	1.00	1.00	1.00	1.00	1.00
	Units:	UG/L	UG/L	UG/L	UG/L	UG/L
Surrogate Recovery	Nitrobenzene-d5	49 %	63 %	63 %	32 * %	68 %
	2-Fluorobiphenyl	46 %	54 %	51 %	25 * %	39 * %
	Terphenyl-d14	47 %	57 %	62 %	40 %	94 %
	Phenol-d5	48 %	54 %	53 %	2 * %	36 %
	2-Fluorophenol	46 %	53 %	44 %	0 * %	26 %
	2,4,6-Tribromophenol	27 %	44 %	38 %	0 * %	50 %
Phenol		10 U	53 %	52 %	10 U	34 %
bis(2-Chloroethyl)ether		10 U	10 U	10 U	10 U	10 U
2-Chlorophenol		10 U	54 %	48 %	10 U	43 %
1,3-Dichlorobenzene		10 U	10 U	10 U	10 U	10 U
1,4-Dichlorobenzene		10 U	44 %	38 %	10 U	14 * %
1,2-Dichlorobenzene		10 U	10 U	10 U	10 U	10 U
2-Methylphenol		10 U	10 U	10 U	10 U	10 U
2,2'-oxybis(1-Chloropropane)		10 U	10 U	10 U	10 U	10 U
4-Methylphenol		10 U	10 U	10 U	10 U	10 U
N-Nitroso-di-n-propylamine		10 U	67 %	71 %	10 U	73 %
Hexachloroethane		10 U	10 U	10 U	10 U	10 U
Nitrobenzene		10 U	10 U	10 U	10 U	10 U
Isophorone		10 U	10 U	10 U	10 U	10 U
2-Nitrophenol		10 U	10 U	10 U	10 U	10 U
2,4-Dimethylphenol		10 U	10 U	10 U	10 U	10 U
bis(2-Chloroethoxy)methane		10 U	10 U	10 U	10 U	10 U
2,4-Dichlorophenol		10 U	10 U	10 U	10 U	10 U
1,2,4-Trichlorobenzene		10 U	51 %	41 %	10 U	17 * %
Naphthalene		10 U	10 U	10 U	10 U	10 U
4-Chloroaniline		10 U	10 U	10 U	10 U	10 U
Hexachlorobutadiene		10 U	10 U	10 U	10 U	10 U
4-Chloro-3-methylphenol		10 U	57 %	56 %	10 U	55 %
2-Methylnaphthalene		10 U	10 U	10 U	10 U	10 U
Hexachlorocyclopentadiene		10 U	10 U	10 U	10 U	10 U
2,4,6-Trichlorophenol		10 U	10 U	10 U	10 U	10 U
2,4,5-Trichlorophenol		26 U	26 U	26 U	25 U	25 U

*= Outside of EPA CLP QC limits.

Cust ID:	B0W8W0		B0W8W0		B0W8W0		SBLKCD		SBLKCD BS	
RFW#:	001		001 MS		001 MSD		99LE1068-MB1		99LE1068-MB1	
2-Chloronaphthalene	10	U	10	U	10	U	10	U	10	U
2-Nitroaniline	26	U	26	U	26	U	25	U	25	U
Dimethylphthalate	10	U	10	U	10	U	10	U	10	U
Acenaphthylene	10	U	10	U	10	U	10	U	10	U
2,6-Dinitrotoluene	10	U	10	U	10	U	10	U	10	U
3-Nitroaniline	26	U	26	U	26	U	25	U	25	U
Acenaphthene	10	U	55	%	51	%	10	U	48	%
2,4-Dinitrophenol	26	U	26	U	26	U	25	U	25	U
4-Nitrophenol	26	U	31	%	24	%	25	U	32	%
Dibenzofuran	10	U	10	U	10	U	10	U	10	U
2,4-Dinitrotoluene	10	U	56	%	61	%	10	U	75	%
Diethylphthalate	10	U	10	U	10	U	10	U	10	U
4-Chlorophenyl-phenylether	10	U	10	U	10	U	10	U	10	U
Fluorene	10	U	10	U	10	U	10	U	10	U
4-Nitroaniline	26	U	26	U	26	U	25	U	25	U
4,6-Dinitro-2-methylphenol	26	U	26	U	26	U	25	U	25	U
N-Nitrosodiphenylamine (1)	10	U	10	U	10	U	10	U	10	U
4-Bromophenyl-phenylether	10	U	10	U	10	U	10	U	10	U
Hexachlorobenzene	10	U	10	U	10	U	10	U	10	U
Pentachlorophenol	26	U	19	%	20	%	25	U	35	%
Phenanthrene	10	U	10	U	10	U	10	U	10	U
Anthracene	10	U	10	U	10	U	10	U	10	U
Carbazole	10	U	10	U	10	U	10	U	10	U
Di-n-butylphthalate	10	U	10	U	10	U	10	U	10	U
Fluoranthene	10	U	10	U	10	U	10	U	10	U
Pyrene	10	U	59	%	63	%	10	U	95	%
Butylbenzylphthalate	10	U	10	U	10	U	10	U	10	U
3,3'-Dichlorobenzidine	10	U	10	U	10	U	10	U	10	U
Benzo(a)anthracene	10	U	10	U	10	U	10	U	10	U
Chrysene	10	U	10	U	10	U	10	U	10	U
bis(2-Ethylhexyl)phthalate	1	JB	2	JB	3	JB	0.9	J	7	JB
Di-n-octyl phthalate	3	JB	3	JB	3	JB	1	J	0.6	JB
Benzo(b)fluoranthene	10	U	10	U	10	U	10	U	10	U
Benzo(k)fluoranthene	10	U	10	U	10	U	10	U	10	U
Benzo(a)pyrene	10	U	10	U	10	U	10	U	10	U
Indeno(1,2,3-cd)pyrene	10	U	10	U	10	U	10	U	10	U
Dibenz(a,h)anthracene	10	U	10	U	10	U	10	U	10	U
Benzo(g,h,i)perylene	10	U	10	U	10	U	10	U	10	U

(1) - Cannot be separated from Diphenylamine. *= Outside of EPA CLP QC limits.

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

B0W8W0

Lab
Lab Name: Recra.LabNet Work Order: 10985001001

Client: TNU-HANFORD B99-085

Matrix: (soil/water) WATER Lab Sample ID: 9908L931-001

Sample wt/vol: 960 (g/mL) ML Lab File ID: A090817

Level: (low/med) LOW Date Received: 08/31/99

% Moisture: _____ decanted: (Y/N)__ Date Extracted: 09/01/99

Concentrated Extract Volume: 1000(uL) Date Analyzed: 09/08/99

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.0

Number TICs found: 2 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		PHTHALATE	25.33	10	J
2.		PHTHALATE	27.36	2	J

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

SBLKCD

Lab Name: Recra.LabNet Work Order: 10985001001

Client: TNU-HANFORD B99-085

Matrix: (soil/water) WATER Lab Sample ID: 99LE1068-MB1

Sample wt/vol: 1000 (g/mL) ML Lab File ID: D090803

Level: (low/med) LOW Date Received: 09/01/99

% Moisture: _____ decanted: (Y/N)__ Date Extracted: 09/01/99

Concentrated Extract Volume: 1000(uL) Date Analyzed: 09/08/99

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.0

CONCENTRATION UNITS:
Number TICs found: 2 (ug/L or ug/Kg) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	23.91	6	J
2.		PHTHALATE	25.00	3	J

Recra LabNet - Lionville Laboratory
BNA ANALYTICAL DATA PACKAGE FOR
TNU-HANFORD B99-085

DATE RECEIVED: 08/31/99 RFW LOT # :9908L931

CLIENT ID	RFW #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
B0W8W0	001	W	99LE1068	08/27/99	09/01/99	09/08/99
B0W8W0	001 MS	W	99LE1068	08/27/99	09/01/99	09/08/99
B0W8W0	001 MSD	W	99LE1068	08/27/99	09/01/99	09/08/99
LAB QC:						
SBLKCD	MB1	W	99LE1068	N/A	09/01/99	09/08/99
SBLKCD	MB1 BS	W	99LE1068	N/A	09/01/99	09/08/99

RECRA LabNet Use Only: 9908L931

Custody Transfer Record/Lab Work Request

Page 1 of 1

RECRA LabNet

ALL FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Client: TNU-Hanford B99-085
Est. Final Proj. Sampling Date:
Project #: 10985-001-001-9999-00
Project Contact/Phone #:
RECRA Project Manager: OJ
QC: Spec Del: Std TAT: 30 day
Date Rec'd: 8/31/99 Date Due: 9/30/99
Account #:

	VOA	BNA	Pest/PCB	Herb				Metal	CN			
Refrigerator #	1	6						6		6	6	6
#/Type Container – Liquid	3g	2g						1p		1p	1p	1p
#/Type Container – Solid												
Volume – Liquid	40	Ltr						Ltr		500	Ltr	Ltr
Volume – Solid								500		2nAC		
Preservatives	HCl							HNO3		NaOH	–	H2SO4

ORGANIC: VOA, BNA, Pest/PCB, Herb. INORG: Metal, CN. ANALYSES REQUESTED →

RECRA LabNet Use Only: 0624H, OGCSC | 0625H | | | | | | Met① | | 15FD | Ang① | 1N3N2 / 1NH3N

MATRIX CODES:
S - Soil
SE - Sediment
SO - Solid
SL - Sludge
W - Water
O - Oil
A - Air
DS - Drum Solids
DL - Drum Liquids
L - EP/TCLP Leachate
WI - Wipe
X - Other
F - Fish

Lab ID	Client ID/Description	MS	MSD	Matrix	Date Collected	Time Collected	0624H / OGCSC	0625H						Met①		15FD	Ang①	1N3N2 / 1NH3N
001	BØW8WØ			W	8/27/99	0640	✓	✓						✓		✓	✓	✓
002	BØW8W1			W	↓	0520	✓											

Special Instructions:

Saf # B99-085

COMPOSITE WASTE

DATE/REVISIONS:
→ 1. 1pH, 1CNO2, 1CNO3, 1CPO4 rec'd
2. out of hold
OGCSC 3. = 1-propanol, ethanol
Met① = As, Ba, Cd, Cr, Cu, Pb, Ni, Se,
5. Ag, V, Zn
Ang① 6. = 1pH, 1CCL, 1CFL, 1CNO2, 1CNO3, 1CPO4, 1CSO4

RECRA LabNet Use Only

Samples were:
1) Shipped ✓ or Hand Delivered ___
Airbill # *
2) Ambient or (Chilled)
3) Received in Good Condition (Y) or N
4) Labels Indicate Properly Preserved (Y) or N
5) Received Within Holding Times Y or (N)

COC Tape was:
1) Present on Outer Package (Y) or N
2) Unbroken on Outer Package (Y) or N
3) Present on Sample (Y) or N
4) Unbroken on Sample (Y) or N
COC Record Present Upon Sample Rec't (Y) or N
Cooler Temp. 4 / 7.0 °C

Relinquished by	Received by	Date	Time
Fed-Ex	D. Ruhl	8/31	0930

Relinquished by	Received by	Date	Time
	Original		
	Rewritten		

Discrepancies Between Samples Labels and COC Record? Y or (N)
NOTES:
*423579528830

Bechtel Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	B99-085-02	Page 1 of 1

Collector: Doug Bowers/Brent Porter	Company Contact: Chris Cearlock — Telephone No.: 372-9574	Project Coordinator: TRENT, SJ	Price Code: 7N — Data Turnaround: 45 Days
Project Designation: 200 Area Source characterization - 200-CW-1 OU - QC Sa	Sampling Location: 200 East 200 CW1	SAF No.: B99-085	
Ice Chest No.: ERC 930	Field Logbook No.: EL-1511	Method of Shipment: Federal Express	
Shipped To: TMA/RECRA C-7B 8-27-99	Offsite Property No.: A99 0234	Bill of Lading/Air Bill No.: 4235 795 28830	
		COA B20CW1 671C	

POSSIBLE SAMPLE HAZARDS/REMARKS	Preservation	ZnAc+NaOH to pH >9 Cool	Cool 4C	H2SO4 to pH <2 Cool 4C	Cool 4C	HNO3 to pH <2	HCl or H2SO4 to pH <2 Coo	HNO3 to pH <2			
	Type of Container	P	P	P	aG	P	aGs*	P			
	No. of Container(s)	1	1	1	2	2	3	3			
Special Handling and/or Storage	Volume	500mL	1000mL	1000mL	1000mL	1000mL	40mL	500mL			
SAMPLE ANALYSIS		Sulfides - 9030	See item (1) in Special Instructions	NO2/NO3 - 353.1; Ammonia - 350.3	Semi-VOA - 8270A (TCL)	Gross Alpha, Gross Beta	VOA - 8260A (TCL); VOA - 8260A (Add-On) (1-Propanol, Ethanol)	See item (2) in Special Instructions			

Sample No.	Matrix *	Sample Date	Sample Time										
B0W8W0	Water	8-27-99	0640	X	X	X	X		X	X			
B0W8W1	Water	8.27.99	0520						X				

CHAIN OF POSSESSION	Sign/Print Names	Date/Time
Relinquished By	Doug Bowers	8-27-99/1300
Received By	Ref LA	8-27-99/1300
Relinquished By	Ref LA	9/30/99 11:00
Received By	Chico	9/30/99 1100
Relinquished By	Chico	9/30/99 1400
Received By	FEDEX	9/30/99 1400
Relinquished By	Fed-Ex	8/31/99 0930
Received By	Dan Pickett	8/31/99 0930

SPECIAL INSTRUCTIONS
See Chain of Custody comments on SAF for special instructions
COLLECTOR NOT AVAILABLE TO SIGN COCs.
(1) IC Anions - 300.0 (Chloride, Fluoride, Nitrate, Nitrite, Phosphate, Sulfate); pH (Water) - 9040
(2) ICP-Metals - 6010A (Supertrace) (Arsenic, Barium, Cadmium, Chromium, Copper, Lead, Nickel, Selenium, Silver, Vanadium, Zinc)

From Non Rad area

Matrix *
Soil
Water
Vapor
Other Solid
Other Liquid

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time